1216

Pagel's Pit, IL E-5
8/27/86
(signed)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN THE MATTER OF: PAGEL'S PIT LANDFILL WINNEBAGO COUNTY, ILLINOIS PROCEEDING UNDER SECTION 106(a) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 42 U.S.C. §9606(a)	U.S. EPA Docket NO. V-W- '86 -C- 019 ADMINISTRATIVE ORDER BY CONSENT

ADMINISTRATIVE ORDER BY CONSENT

I. JURISDICTION

A. This ADMINISTRATIVE ORDER BY CONSENT (Consent Order) is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §9606(a), and delegated to the Administrator of the United States Environmental Protection Agency (U.S. EPA) on August 14, 1981, by Executive Order 12316, 46 Fed. Reg. 42237, and duly delegated to the Assistant Administrator for Solid Waste and Emergency Response and the Regional Administrators by Delegation Nos. 14-14 and 14-14-A, the latter of which was signed on April 16, 1984.

B. Respondents, who are identified on Appendix A hereto, agree to undertake all actions required by the terms and conditions of this Consent Order, and consent to and agree not to contest U.S. EPA jurisdiction to issue this Consent Order in this or in any future judicial or administrative action.

II. STATEMENT OF PURPOSE

A. In entering into this Consent Order, the mutual objectives of U.S. EPA and Respondents are to protect public health and the environment by conducting a Remedial Investigation and Feasibility Study, as those terms are defined in the National Contingency Plan, 40 CFR Part 300, as amended.

B. The activities conducted pursuant to this Consent Order are subject to approval by U.S. EPA as provided herein, and shall be consistent with the National Contingency Plan, 40 CFR Part 300, as amended, and any applicable federal, local and state law.

III. PARTIES BOUND

A. The following persons, as defined in Section 101(21) of CERCLA, 42 U.S.C. §9601(21), are parties to this Consent Order:

(1) United States Environmental Protection Agency (U.S. EPA)

(2) Respondents as set forth in Appendix A which is incorporated herein.

B. This Consent Order shall apply to and be binding upon U.S. EPA and Respondents, their successors and assigns, and upon all persons, contractors, or consultants acting for U.S. EPA and/or Respondents.

C. The undersigned respresentatives of each person listed in paragraph A certifies that he or she is able, or is fully authorized by the person or persons whom he or she represents, to enter into the terms and conditions of of this Consent Order and to execute and legally bind that person or those persons to it.

D. In the event that any Respondent fails to carry out its responsibilities to undertake and complete such required activities, in whole or part, any and all other Respondents remain liable for the completion of all requirements. No change in ownership, corporate, or partnership status will in any way alter the status of Respondents under this Consent Order. Despite any such changes in status, the liability of each of the Respondents will remain unaffected and the Respondents will remain responsible for carrying out all activities required by this Consent Order.

E. Respondents shall provide a copy of this Consent Order to each Contractor selected to perform the activities required by this Consent Order and shall instruct each such Contractor to provide a copy thereof to each subcontractor retained.

IV. DEFINITIONS

As used in this Consent Order and the Remedial Investigation/ Feasibility Study to be incorporated herein, the Statement of Work, attached hereto and fully incorporated herein as Appendix B, and the Work Plan to be incorporated herein as Appendix C, the following shall be defined terms:

1. "Respondents" shall mean those entities set forth in Appendix A and incorporated herein;

2. "Contractor" or "consultant" shall mean a qualified Contractor retained by the Respondents pursuant to this Consent Order, and any subcontractor, employee, representatives, agent or designee thereof.

3. "U.S. EPA" shall mean the United States Environmental Protection Agency, its employees and authorized representatives.

4. "IEPA" shall mean the Illinois Environmental Protection Agency, its employees and authorized representatives.

5. "Pagel's Pit Landfill" shall mean the facility, as facility is defined in Section 101(9) of CERCLA, 42 U.S.C. §9601(9), located in Winnebago County, Illinois which is the subject of the RI/FS to be conducted pursuant to this Consent Order.

6. The "Parties" shall mean the Respondents and U.S. EPA.

7. "Documents" shall mean any correspondence, reports, and any and all documentary evidence, of any kind, reflecting any information concerning Pagel's Pit Landfill conditions and the conduct of the RI/FS. The term "document" shall be construed broadly to promote the effective sharing of information and views concerning the RI/FS between the Respondents and U.S. EPA.

8. "Days" shall mean calendar days, unless business days are specified.

V. FINDINGS

A. Pagel's Pit Landfill (hereinafter the "Facility") is an approximately sixty (60) acre, asphalt lined, active landfill on a seventy (70) acre tract owned and operated by Winnebago Reclamation Services, Inc., and is located approximately five miles south of Rockford, Illinois in part of the eastern one-third of Section 36, Township 43 North, Range 1 East and part of Section 31, Township 43 North, Range 2 East in Winnebago County. In the vicinity of the Facility are some single family residences to the south and east; Killbuck Creek and agricultural land to the west; and a sludge drying facility and ethanol production plant to the north. Immediately to the east of the Facility is property owned by Acme Solvents Inc., which is on the National Priorities List. The Facility has been permitted by IEPA since 1972 for solid waste disposal.

B. The Facility is situated on the east bank of Killbuck Creek in an area of rolling uplands exhibiting from 10 to 200 feet of relief, and is drained by the Rock River and its tributaries. Killbuck Creek flows to the northwest and converges with the Kishwaukee River (approximately two miles downstream) and the Rock River (approximately two and one-half miles downstream).

C. The eastern portion of the Facility is located over a east-west trending bedrock ridge. The majority of the Facility overlies a bedrock valley filled with glacial sand and gravel outwash deposits and more recent alluvial deposits.

D. The bedrock formation, the Galena-Platteville Dolomite, is used extensively for residential water supply, as are the sand and gravel deposits. The Galena-Platteville Dolomite is hydrologically connected to lower, more productive aquifers such as the basal portions of the Glenwood Formation and the underlying St. Peter Sandstone.

E. Groundwater sampling performed for U.S. EPA, IEPA and the Facility owner at and near the Facility has shown organic and inorganic contamination in monitoring wells and private residential supply wells.

F. Monitoring wells and private water supply wells near the facility contained concentrations of hazardous substances that exceeded their respective health based criteria. Because

concentration levels in private water supply wells of some of the above compounds were greater than the appropriate health criteria, the IEPA notified the owners of these wells that the water from these wells was not fit for consumption.

G. Concentrations of arsenic have been detected in monitoring wells near the Facility at levels up to 50 ug/l which is the National Interim Primary Drinking Water Regulations, Maximum Contaminant Level for Arsenic.

H. Leachate samples taken at the Facility have contained organic and inorganic contaminants.

I. Pagel's Pit Landfill was proposed for inclusion on the National Priorities List (NPL) in Group 6 of the second proposed update to the NPL, 40 CFR Part 300, Appendix B and 49 Federal Register 40329, and was finalized for inclusion on the NPL on June 10, 1986, 51 Federal Register 21054.

J. Pagel's Pit Landfill, is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. §9601(9).

K. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. §9601(21).

L. The contaminants detected in the groundwater and leachate referred to above are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. §9601(14).

M. U.S. EPA has determined that there has been a past, present and/or potential migration of hazardous substances from the Facility which constitutes an actual and/or threatened "release" into the environment as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. §9601(22), which presents or may present an imminent and substantial endangerment to public health or welfare or the environment. Respondents do not admit that there has been any release of any hazardous substances, pollutants, or contaminants from the Facility to the environment, and deny that there is any actual or threatened imminent and substantial endangerment to public health or welfare or the environment, and have opposed U.S. EPA's proposal to include the Facility on the National Priorities List and have also opposed U.S. EPA's final inclusion of the Facility on the National Priorities List.

N. U.S. EPA has determined that within the meaning of Section 107(a) of CERCLA, 42 U.S.C. §9607(a), the Respondents "owned or operated" the Facility, arranged for the disposal at the Facility of hazardous substances owned or possessed by the Respondents or transported hazardous substances to the Facility. The Respondents do not admit that they disposed or arranged for disposal of hazardous substances at the Facility, or transported hazardous substances to the Facility, and deny any liability under Section 107(a) in connection with any such alleged disposal or transportation.

O. U.S. EPA has determined that the actions required by this Consent Order are reasonable and necessary to protect the public health and welfare and the environment. The Respondents deny that the actions required by this Consent Order are reasonable and necessary to protect public health and welfare and the environment.

P. The actions to be taken pursuant to this Consent Order are consistent with the National Contingency Plan, 40 CFR Part 300, as amended.

VI. REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

A. Respondents shall complete a Remedial Investigation ("RI") and perform a Feasibility Study ("FS") (hereinafter "RI/FS") of the Facility and the surrounding area in accordance with the Statement of Work (hereinafter "Statement of Work") for the completion of the RI/FS for Pagel's Pit Landfill, which is attached hereto and incorporated herein as Appendix B.

B. All work to be performed pursuant to this Consent Order shall be conducted under the direction and supervision of a qualified engineer or geologist with expertise in hazardous waste site investigation and clean-up. For this purpose, Respondents have retained the firm Warzyn Engineering Inc. of Madison, Wisconsin, which has the aforesaid expertise. Respondents have requested of Warzyn, and Warzyn has agreed, to continue to staff the work

required hereunder with personnel having the requisite skills to properly perform the work. Respondents agree to furnish to U.S. EPA the names of any contractors or subcontractors to be used in carrying out the terms of this Consent Order.

C. Within thirty (30) calendar days of the effective date of this Consent Order, Respondents shall submit to U.S. EPA a draft RI/FS Work Plan, in accordance with the standards, specifications and U.S. EPA RI/FS guidance documents identified in Appendix B.

1. The draft Work Plan shall be subject to review, modification, approval or disapproval, in whole or in part, by U.S. EPA. U.S. EPA shall notify Respondents in writing of approval or disapproval or required modifications of the Work Plan, or any parts thereof, specifying the deficiencies and any required modifications consistent with Appendix B.

2. Within twenty-one (21) days of receipt of U.S. EPA notification disapproving or requiring modifications of the Work Plan, or any parts thereof, Respondents shall amend and submit to U.S. EPA a revised Work Plan, correcting the deficiencies and reflecting all the required modifications. Failure to submit such a revised Work Plan shall be deemed noncompliance with the terms of this Consent Order by Respondents and grounds

for termination of this Consent Order by U.S. EPA. In the event of such termination, U.S. EPA retains all rights provided by federal and state statutes and regulations including, but not limited to, conducting a complete RI/FS, and Respondents retain all rights and defenses provided by law.

3. Upon final approval of the Work Plan by U.S. EPA, the RI/FS Work Plan shall be deemed incorporated into and made a part of this Consent Order, and shall be attached hereto as Appendix C.

4. Promptly upon receipt of final approval by U.S. EPA of the Work Plan, Respondents shall commence performance of the work as detailed in the Work Plan.

D. The Respondents shall provide preliminary and final plans or reports to U.S. EPA according to the schedule contained in Appendix B and as further specified in the Work Plan.

1. U.S. EPA shall review any preliminary or final plans or reports, in whole or in part, and, if necessary, shall specify, in writing, the deficiencies and any modifications or additions which must be made prior to approval of any plans or reports. Delays in performance of the Work Plan due to U.S. EPA document review time shall not be considered a violation of this Consent Order. The period for performance of activities contingent on completion of U.S. EPA document review shall be extended for a time not to exceed the actual delay occasioned by U.S. EPA review.

2. Within the time prescribed by the Statement of Work following receipt of U.S. EPA notification disapproving or requiring modifications of draft or final reports, Respondents shall submit a revised report to U.S. EPA.

3. In the event of subsequent disapproval of any such revised plan or report, if Respondents or their consultants fail, after a reasonable time, but in any event not longer than the time for revisions as described in Paragraph D.2. above, to make satisfactory revisions or explain to U.S. EPA's satisfaction why such revisions should not be made, U.S. EPA retains the right to amend such reports, to perform additional studies, to conduct an RI/FS and/or to enforce the terms of this Consent Order.

E. All work required by this Consent Order shall be conducted in accordance with the National Contingency Plan, 40 CFR Part 300 as amended, and in accordance with U.S. EPA RI/FS guidance.

F. U.S. EPA may determine that tasks including additional remedial investigatory studies and/or engineering designs or evaluations, are necessary as part of the Remedial Investigation and Feasibility Study in addition to U.S. EPA approved tasks and deliverables, which have been completed pursuant to this Consent Order. Subject to Sections XIV and XVII of this Consent Order in the event that the Respondents disagree with the

aforesaid determination, the Work Plan shall be modified accordingly and Respondents shall implement such additional tasks. The additional work shall be completed in accordance with the standards, specifications and schedule in the Work Plan as proposed by the Respondents and approved by U.S. EPA.

VII. PROGRESS REPORTS

A. Respondents shall provide monthly written progress reports, as specified in the Statement of Work, to U.S. EPA containing a reasonable description of the technical progress of all the work performed to date as well as specifically identifying that work which was performed during the previous month and describing activities planned for the next month. These progress reports are to be submitted to U.S. EPA by the tenth day of every month following the effective date of this Consent Order.

B. Any questions posed by the U.S. EPA concerning such Progress Reports or progress made during the prior period(s) shall be answered by Respondents' Project Coordinator and/or contractor(s) within ten (10) working days after the date of receipt by Respondents of such questions.

VIII. PROJECT COORDINATORS

A. For the purpose of overseeing the implementation of this Consent Order, the following Project Coordinators have been

designated:

1. For U.S. EPA: David Favero, Remedial Project Manager
   Hazardous Waste Enforcement Branch (5HE-12)
   U.S. Environmental Protection Agency
   Region V
   230 South Dearborn Street
   Chicago, Illinois 60604

2. For Respondents: Mr. Gary L. Marzorati
   Winnebago Reclamation Service, Inc.
   4920 Forest Hills Road
   Loves Park, Illinois 61111

3. In addition, notices and communications, as deemed appropriate by the Project Coordinators, should be sent to the Project Manager for Respondent's Contractor, who at this time is:

   Mr. Daniel W. Hall, CPGS
   Project Manager
   Warzyn Engineering Inc.
   One Science Court
   University Research Park
   Madison, Wisconsin 53705

To the maximum extent possible, except as specifically provided in this Consent Order, communications among Respondents and U.S. EPA concerning the terms and conditions of this Consent Order shall be made through the Project Coordinators.

B. During implementation of the RI/FS Work Plan, the Project Coordinators shall, whenever possible, operate by agreement. The Project Coordinators shall attempt to resolve disputes informally through good faith discussion of the issues. The Project Coordinators may agree among themselves that certain documents or correspondence, or types of documents or correspondence, should

be sent to the Project Coordinators by certified mail. Each Project Coordinator shall be responsible for assuring that all communications from the other Project Coordinators are properly disseminated and processed.

C. Respondents and U.S. EPA shall have the right to change their respective Project Coordinators. Such a change, or a change in Respondent's contractor's representative, shall be accomplished by notifying the other parties in writing by certified mail at least five (5) business days prior to the change.

D. The U.S. EPA Project Coordinator shall be the On-Scene Coordinator/Remedial Project Manager ("OSC/RPM") as provided in, and shall have the authority vested by, the National Contingency Plan, 40 CFR Part 300, as amended. The U.S. EPA OSC/RPM retains all authority to direct or conduct any activity authorized by CERCLA, including the authority to halt, change or to direct any work required by this Consent Order and/or any other response actions whenever U.S. EPA's Project Coordinator determines that activities or conditions at the facility may present an imminent and substantial endangerment to public health or welfare or the environment. To the extent that completion of any of Respondents' obligations under this Consent Order are delayed by the OSC/RPM ordering such cessation of work, changed work, or additional work, such delay shall be considered to be beyond the reasonable control of Respondents for the purpose of Section XI (Delay in Performance and Force Majeure).

E. Respondents' Project Coordinator shall be on site during all hours of site work or shall be on call for the pendency of this Consent Order. In the event that the Respondents' Project Coordinator is unable to be present at the site for any period of time during which the work is being performed, Respondents shall designate a substitute Project Coordinator who shall remain at the Facility or on call during all such period. The absence of the U.S. EPA Project Coordinator from the Facility shall not be cause for the stoppage of work.

IX. OTHER APPLICABLE LAWS

All actions required to be taken by Respondents pursuant to this Consent Order shall be performed in compliance with all applicable Federal, State and local laws and regulations. In the event there is a conflict in the application of Federal or State laws or regulations, the more stringent of the conflicting provisions or determinations, which at a minimum satisfies Federal requirements, shall apply. Respondents shall be responsible for identifying and obtaining all state and local permits which are necessary for the performance of the work required by this Consent Order.

X. SITE ACCESS, SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. Respondents shall assure that U.S. EPA and/or any of its authorized representatives have access to enter the Facility

whenever work is being performed or at any other reasonable times. Nothing herein shall be construed as restricting the inspection or access authority of U.S. EPA under federal or state statutes or regulations.

B. To the extent that any of the work called for under the RI/FS must be conducted on property other than that which is owned by the Respondents, Respondents will use their best efforts to obtain voluntary site access to such property from the present owners, including any agreements necessary to provide access to U.S. EPA and their authorized representatives. Copies of such agreements shall be provided to U.S. EPA. In the event that the Respondents' efforts to obtain such voluntary site access are unsuccessful, they will promptly notify U.S. EPA, and U.S. EPA will use its discretion to determine what, if any, action U.S. EPA will take to obtain or assist in obtaining such access. In the event that access is not obtained, a corresponding modification shall be made to the Statement of Work.

C. Respondents shall assure that U.S. EPA and/or any of its authorized representatives shall have access to Respondents' facilities or the facilities of Respondents' contractors or

consultants, at reasonable times, and upon reasonable notice, for any purpose consistent with this Consent Order, CERCLA, and any other Federal law, including, but not limited to inspecting records, operating logs, and contracts related to the Facility; reviewing the progress of Respondents in carrying out the terms of this Consent Order; conducting such tests as U.S. EPA or its Project Coordinator deem necessary; verifying the data submitted to U.S. EPA by Respondents; or taking any action consistent with the National Contingency Plan 40 CFR Part 300, as amended, and this Consent Order. Respondents shall permit U.S. EPA or its authorized representatives to use any technical means deemed necessary by U.S. EPA including, but not limited to cameras, sound or video recording devices, or other documentary type equipment to inspect and copy all records, files, logs, contracts, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Consent Order.

D. Respondents and U.S. EPA shall make available to each other the results of all sampling, tests or other data generated by any of them, or on their behalf, with respect to the implementation of this Consent Order. Respondents shall submit these results in or together with the monthly progress reports as described in Section VII of this Consent Order following appropriate evaluation and quality assurance/quality control review by Respondent's contractor. This evaluation and QA/QC

review shall be performed promptly by Respondent's contractor upon receipt of the results above.

E. At the request of U.S. EPA, the Respondents shall provide split or duplicate samples to U.S. EPA and/or its authorized representatives of any samples collected by Respondents pursuant to the implementation of this Consent Order. Respondents shall notify the Project Coordinators not less than seventy-two (72) hours in advance of any sample collection activity. Similarly, if U.S. EPA conducts any sampling, it will provide split or duplicate samples to Respondents, if requested, and shall provide Respondents with not less than seventy-two (72) hours notice in advance of any sample collection activity.

F. Pursuant to applicable Federal laws and regulations, Respondents may assert a confidentiality claim with respect to any or all of the information requested or to be submitted pursuant to the terms of this Consent Order. Such an assertion must be adequately substantiated when the assertion is made. Analytical data shall not be claimed as confidential by Respondents. Information claimed as confidential will be handled in accordance with 40 CFR Part 2, Subpart B. Any subsequent determinations in connection therewith shall be governed by 40 CFR Part 2 and any other applicable law. If no confidentiality claim accompanies the information when it is submitted to U.S. EPA, it may be made available to the public by U.S. EPA without further notice to the Respondents.

XI. DELAY IN PERFORMANCE AND FORCE MAJEURE

A. The Respondents shall cause all work to be performed within the time limits set forth herein, unless performance is delayed by events which constitute a force majeure. For purposes of this Consent Order, a "force majeure" is an event arising from causes or circumstances beyond the reasonable control of the Respondents which delays or prevents performance of any obligations required by this Consent Order. Customary and foreseeable increases of costs shall not be considered circumstances beyond the control of the Respondents.

B. When circumstances are occurring or have occurred which may delay the completion of any phase of the work or delay access to any property on which any part of the work is to be performed, or the submission of any report required under this Consent Order, whether or not due to a "force majeure" event, the Respondents shall within three (3) working days notify U.S. EPA and as soon as practicable, but in any case not later than fifteen (15) days after the event, Respondents shall supply to U.S. EPA in writing a full description of the nature of the delay; the reasons for and the anticipated duration of such delay; the measures taken and to be taken by Respondents to prevent or minimize the delay; and the timetable for implementation of such measures; and whether it is the position of Respondents that the circumstances are the result in whole or in part of a "force majeure" event and, if so,

a description of the event. Respondents, shall adopt all reasonable measures to avoid or minimize any such delay.

C. If U.S. EPA agrees that a delay is or was attributable to a "force majeure" event, the performance schedule of the Work Plan shall be modified to provide such additional time as may be necessary to allow the completion of the phase of the work and/or any succeeding phase of the work affected by such delay.

D. If the parties cannot agree on whether the reason for the delay was a "force majeure" event, or whether the duration of the delay is or was warranted under the circumstances, the Dispute Resolution provisions of Section XIV of this Consent Order shall apply.

XII. QUALITY ASSURANCE

Throughout all sample collection and analysis activities Respondents shall use quality assurance, quality control and chain of custody procedures in accordance with the final approved Quality Assurance Project Plan (QAPP).

XIII. STIPULATED PENALTIES

A. Respondents shall be liable for payment into the Hazardous Substances Response Trust Fund administered by U.S. EPA the sums set forth below as stipulated penalties for each week or part

thereof that Respondents fail to submit a report or document or comply with a schedule in accordance with the requirements contained in this Consent Order. This Section does not apply to the failure to perform additional work required by Section VI., Paragraph F. Such sums shall be due and payable within fifteen (15) days of receipt of notification from U.S. EPA assessing the penalties. Respondents shall have a grace period of one week. Following the end of the first week, these stipulated penalities shall accrue in the amount of $500.00 for the second week or part thereof, and $1,000.00 for each week or part thereof thereafter.

B. The stipulated penalties set forth in paragraph A of this section shall not preclude U.S. EPA from electing to pursue any other remedy or sanction because of Respondents' failure to comply with any of the terms of this Consent Order, including a suit to enforce the terms of this Consent Order. Said stipulated penalties shall not preclude U.S. EPA from seeking statutory penalties up to the amount authorized by law in the event of Respondents' willful failure to comply with any requirements of this Consent Order.

XIV. DISPUTE RESOLUTION

A. The parties shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion with respect to any matter arising under or related to this Consent Order. If, however, disputes arise concerning this Consent

Order including, but not limited to, implementation of the RI/FS Work Plan, approval of documents, scheduling of any of the work, selection, performance, or any other obligation assumed hereunder, which the parties are unable to resolve informally, either the Respondents shall present a written notice of such dispute to U.S. EPA, or U.S. EPA shall present a written notice of such dispute to the Respondents, which shall set forth specific points of dispute, the position of the party presenting such notices and the technical basis therefor, and any actions which that party considers necessary.

B. Within ten (10) business days of receipt of such written notice, the recipient shall provide a written response to the giver of the notice setting forth the position of the recipient and the basis for the position of the recipient. During the ten (10) business days following receipt of the response, the parties shall meet and attempt to negotiate in good faith a resolution of their differences.

C. Following the expiration of the time periods described in Paragraph B above, including any extensions thereof which the parties may make in accordance with Paragraph D below, if U.S. EPA concurs with the position of the Respondents as originally set forth or as modified, the Respondents will be notified and this Consent Order will be modified to include any necessary extensions of time or variances of work. If U.S. EPA does not concur with the position of the Respondents, as originally

set forth or as modified, U.S. EPA will resolve the dispute, based upon and consistent with this Consent Order and shall provide written notification of such resolution to the Respondents. All parties expressly reserve all rights and defenses which they may have pursuant to any available legal authority.

D. During the pendency of dispute resolution procedures set forth in this Section, the time period for completion of work and/or obligations to be performed under this Consent Order, which are affected by such dispute, may be extended upon agreement of all Parties for a period of time not to exceed the actual time taken to resolve the dispute. Elements of the work and/or obligations not affected by the dispute shall be completed in accordance with the schedule in the Work Plan. Any time period for dispute resolution set forth herein may be extended upon agreement of all Parties to this Consent Order.

E. Upon resolution of any dispute, the Respondents shall immediately incorporate the resolution into the appropriate plan or procedures, and proceed with the work according to the amended plan or procedures.

XV. NO ADMISSIONS

Nothing in this Consent Order, or any of the attachments hereto, is intended by the parties to be, nor shall it be deemed to be, an admission by Respondents of any liability whatsoever, or a waiver of any defenses whatsoever by Respondents.

XVI. COVENANT NOT TO SUE

Upon termination and satisfaction of this Consent Order pursuant to Section XXV of this Consent Order, U.S. EPA covenants not to sue the Respondents for the performance of the RI/FS, as provided in this Consent Order, including the cost thereof, except as otherwise reserved herein. This Covenant Not to Sue shall not apply to costs incurred by U.S. EPA for past response activities or to costs of oversight of the performance of this Consent Order.

XVII. RESERVATION OF RIGHTS

A. Nothwithstanding compliance with the terms of this Consent Order, including the completion of an U.S. EPA approved RI/FS, the Respondents are not released from liability, if any, for any actions beyond the terms of this Consent Order taken by U.S. EPA respecting Pagel's Pit Landfill. Except as provided in Section XVI, U.S. EPA reserves the right to take any enforcement action pursuant to CERCLA and/or any available legal authority, including the right to seek injunctive relief, monetary penalties, and punitive damages for any violation of law or this Consent Order and Respondents reserve all rights and defenses thereto.

B. The Respondents and U.S. EPA expressly reserve all rights and defenses that they may have, pursuant to any available legal

authority, including U.S. EPA's right to disapprove of work performed by the Respondents, and to require that the Respondents perform tasks in addition to those detailed in the RI/FS approved Work Plan, as provided in this Consent Order. In the event that Respondents decline to perform any modified and/or additional work, U.S. EPA reserves the right to undertake any remedial investigation/feasibility study work and/or any response actions deemed necessary by U.S. EPA and consistent with statutory authority. U.S. EPA reserves the right to seek reimbursement from Respondents for any costs incurred by the United States. Respondents reserve all rights and defenses thereto.

C. Nothing herein is intended to release, discharge or in any way affect any claims, causes of action, or demands in law or equity against any person, firm, partnership or corporation not a Party to this Consent Order, from any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release or disposal of any hazardous substances, hazardous wastes, pollutants or contaminants found at or taken to or from the Facility. The Parties to this Consent Order expressly reserve all rights, claims, demands, and causes of action they have or may have against any and all other persons and entities who are not parties to this Consent Order.

D. Conveyance of title, easements, or any other interest in the

Facility shall not release Respondents from liability under or from compliance with the requirements of this Consent Order.

E. U.S. EPA reserve the right to bring an action against the Respondents for recovery of any costs incurred by the United States in connection with any response or oversight activities conducted or to be conducted at the Facility, other than those response activities completed pursuant to this Consent Order to the satisfaction and approval of the U.S. EPA. Respondents reserve all defenses which they may have in law or in equity to any such action.

F. Nothing herein shall waive the right of U.S. EPA to enforce this Consent Order under Section 106(b) of CERCLA, 42 U.S.C. §9606(b).

G. Nothing herein shall waive the right of U.S. EPA to take action pursuant to Sections 104, 106(a), and 107 of CERCLA, 42 U.S.C. §§9604, 9606(a) and 9607, or any other applicable law, which are not inconsistent with the provisions of this Consent Order.

XVIII. INDEMNIFICATION

A. The Respondents agree to indemnify and save and hold the United States Government, its agencies, departments, agents, and employees, harmless from any and all claims or causes of action arising from, or on account of, negligent acts or omissions or

willful misconduct of the Respondents, their officers, employees, contractors, consultants, receivers, trustees, agents, or assignees, in carrying out any activities pursuant to this Consent Order.

B. U.S. EPA shall not be a party to and shall not be liable under any contract entered into by Respondents in carrying out the requirements of this Consent Order.

C. U.S. EPA agrees to notify Respondents of any such claims or actions as soon as practicable but in any case within thirty (30) working days of receiving notice that such a claim or action is anticipated or has been filed. U.S. EPA agrees not to act with respect to any such claim or action without first providing Respondents with an opportunity to participate and further agrees to cooperate with Respondents in the defense of any such claim or action.

D. If Respondents receive a notice of a claim or action they shall notify the Contractor and the other Parties of any such claim or action as soon as practicable, but in any case within thirty (30) days of the receipt of such claim or action. Respondents agree to cooperate with U.S. EPA in the defense of any such claim or action against U.S. EPA which is the subject of a claim of indemnity, arising under activities pursuant to this Consent Order.

XIX. CERCLA FUNDING

A. The Respondents waive any claims or demands for compensation or payment under Section 111 and 112 of CERCLA, 42 U.S.C. §§9611 and 9612, against the United States or the Hazardous Substance Response Trust Fund established by Section 221 of CERCLA, 42 U.S.C. §9631, for or arising out of any activity performed or expenses incurred pursuant to this Consent Order.

B. This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. §9611(a)(2).

XX. RECORD PRESERVATION

The Respondents agree to preserve, during the pendency of this Consent Order, and for a minimum of four (4) years after termination of this Consent Order, all records and documents in the possession of the Respondents, or their contractors, which relate to this Consent Order. Upon request by the U.S. EPA, the Respondent shall make available to the U.S. EPA such records, or copies of any such records.

XXI. PRESERVATION OF MONITORING SYSTEM

A. Respondents shall assure that no portion of the Facility will be used in any manner which would adversely affect the integrity of any monitoring system installed pursuant to this Consent Order

until U.S. EPA issues a decision, consistent with the NCP, as to what if any remedy shall be required, but in no event shall this obligation extend beyond two (2) years following termination of this Consent Order pursuant to Section XXV. Respondent Winnebago Reclamation Service, Inc. will assure that no portion of its property will be used in any manner which would adversely affect the integrity of any monitoring system installed pursuant to this Consent Order, until the remedy, if any, selected by U.S. EPA is implemented.

B. The Respondents shall assure that no conveyance of title, easement or other interest in any portion of the Facility is made without provision for continuing the obligations set forth in the preceding paragraph with respect to preserving the integrity of the monitoring system installed pursuant to this Consent Order. The Respondents shall notify U.S. EPA by certified mail at least thirty (30) days prior to any conveyance or of an intent to convey any interest in the Facility and of the provisions made for the continued operation and maintenance of any system installed pursuant to this Consent Order.

XXII. PUBLIC COMMENT, EFFECTIVE DATE AND SUBSEQUENT MODIFICATION OF THE ADMINISTRATIVE ORDER

A. Within fifteen (15) days of the date of the execution of this Consent Order, U.S. EPA shall announce the availability of this Consent Order to the public for review and comment. U.S. EPA

shall accept comments from the public for a period of thirty (30) days after such announcement. At the end of the comment period, U.S. EPA shall review all such comments and shall either:

1. determine that the Consent Order should be made effective in its present form, in which case, Respondents shall be so notified in writing, and the Consent Order shall become effective on the date Respondents receive such notification; or
2. determine that modification of the Consent Order is necessary, in which case Respondents will be informed as to the nature of all required changes. U.S. EPA will discuss the changes with the Respondents. If Respondents agree to the modifications, the Consent Order shall be so modified and shall become effective upon signature of the Parties. In the event that Respondents do not agree on modifications required by U.S. EPA as a result of public comments, this Consent Order may be withdrawn by U.S. EPA. In such an event, U.S. EPA reserves the right to take such actions as they deem necessary, and Respondents reserve all defenses in connection therewith.

B. Except as expressly provided herein, this Consent Order may only be amended by mutual agreement of U.S. EPA and the

Respondents. Any such amendments shall be in writing and shall have as the effective date the date specified therein.

XXIII. PARTICIPATION IN COMMUNITY RELATIONS ACTIVITIES

Respondents shall be given notice of and shall participate in public meetings, as appropriate, which may be held or sponsored by U.S. EPA to explain activities at or concerning the Facility, including the findings of the RI/FS. In addition Respondents shall provide all support reasonably requested of them by U.S. EPA in carrying out the U.S. EPA approved Community Relations Plan.

XXIV. NOTICE TO THE STATE

The State of Illinois has been notified of this action pursuant to requirements of Section 106(a) of CERCLA, 42 U.S.C. §9606(a).

XXV. TERMINATION AND SATISFACTION

A. The provisions of this Consent Order shall be deemed satisfied upon Respondents' receipt of written notice from U.S. EPA that Respondents have demonstrated, to the satisfaction of U.S. EPA that all of the terms of this Consent Order have been completed. Such notice shall not be unreasonably withheld. Following completion of all of the requirements of the work in the Consent Order, Respondents shall request a determination by U.S. EPA as to whether Respondents have satisfactorily completed the work. U.S. EPA shall provide Respondents with such a determination as

soon as practicable, but in any event within 90 days of such a request. Any negative determination by U.S. EPA shall set forth the reasons why the work has not been satisfactorily completed. Respondents shall have a reasonable opportunity to respond to any alleged deficiencies, and to correct any deficiencies.

B. Those provisions of this Consent Order which by their terms extend beyond the termination date of this Consent Order shall survive termination under this Section.

XXVI. NO WAIVER

Failure of any party to require strict compliance with any deadline, penalty provision or other provision in this Consent Order shall not in any way affect the right of that party to require strict compliance with any such provision on any other occasion or with any other provision of this Consent Order.

The Winnebago Reclamation Service, Inc. agrees to this Consent Order, consisting of 37 pages, by its duly authorized representative on this 9 day of July, 1986.

Winnebago Reclamation Service, Inc.

4920 FOREST HILLS RD

LOVES PARK, ILL 61111
(Address)

815 6544700
(Telephone)

By: [signature]
Charles A. Howard, President

4920 FOREST HILLS RD

LOVES PARK, ILL 61111
(Address)

815 - 6544700
(Telephone)

The City of Rockford Illinois agrees to this Consent Order, consisting of 37 pages, by its duly authorized representative on this 1st day of August, 1986.

City of Rockford

_____

_____
(Address)

_____
(Telephone)

By: _____
John F. McNamara, Mayor

425 East State Street

Rockford, IL 61104
(Address)

(815) 987-5540
(Telephone)

The Sanitary District of Rockford agrees to this Consent Order, consisting of 37 pages, by its duly authorized representative on this 25th day of June, 1986.

Sanitary District of Rockford

3333 Kishwaukee Street, P.O. Box 918

Rockford, IL 61105
(Address)

(815) 397-9700
(Telephone)

By: Robert B. Stringer
Robert B. Stringer, President

3333 Kishwaukee Street, P.O. Box 918

Rockford, IL 61105
(Address)

(815) 397-9700
(Telephone)

The Quality Metal Finishing Co. agrees to this Consent Order, consisting of 37 pages, by its duly authorized representative on this 12th day of August, 1986.

Quality Metal Finishing Co.

4th & Walnut Streets

Byron, IL 61010
(Address)

815/234-2711
(Telephone)

By: s/
Mario Bortoli, President

4th & Walnut Streets

Byron, IL 61010
(Address)

815/234-2711
(Telephone)

IT IS SO ORDERED:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

BY: Valdas V. Adamkus DATED: Aug. 27th, 1986.
Valdas V. Adamkus
Regional Administrator
United States Environmental
Protection Agency, Region V

6/86

WARZYN

Statement of Work
Project No. C11684

Statement of Work
Pagel's Pit Landfill
Rockford, Illinois

Prepared for:
Pagel's Pit Landfill
Potentially Responsible Parties

Prepared by:
Warzyn Engineering Inc.
Madison, Wisconsin

June, 1986

WARZYN

Engineers & Scientists
Environmental Services
Waste Management
Water Resources
Site Development
Special Structures
Geotechnical Analysis

June 10, 1986

U.S. EPA
Region V
230 South Dearborn Street
Chicago, IL 60604

Attention: Mr. David Favero 5-HE 12

Re: Statement of Work
Pagel's Pit Landfill
Rockford, IL

Dear Mr. Favero:

Enclosed is one copy of the final Statement of Work, Pagel's Pit Landfill, Rockford, Illinios. The document has been revised to reflect the deletion of Illinois EPA participation in the consent agreement. Your copy of the May 22, 1986 Statement of Work with required changes is also enclosed.

Respectfully submitted,

WARZYN ENGINEERING INC.

James H. Hill
Hydrogeologist

JAH/sss/DRV
[sss 2-15]

Encl: As Stated

cc: Mr. Lisa Seglin, USEPA (1)
Mr. Doug Crandall, IEPA, Springfield, IL (1)
Mr. Gary Mazarti, Winnebago Reclamation Inc., Rockford, IL (3)
Mr. Ridgeway Hailor, Crowell & Moring, Washington D.C. (22)

Warzyn Engineering Inc
One Science Court
University Research Park
PO Box 5385
Madison Wisconsin 53705
(608) 273-0440

WARZYN

Statement of Work
Pagel's Pit Landfill
Rockford, Illinois

June, 1986

STATEMENT OF WORK
PAGEL'S PIT LANDFILL
ROCKFORD, ILLINOIS

REMEDIAL INVESTIGATION

PURPOSE

The purpose of this Remedial Investigation (RI) is to identify the source(s) of groundwater contamination, and determine the nature and extent of release of contaminants to the air, surface water or sediments. The scope of the Feasibility Study (FS) will be based on the available information, the results of the RI and the Endangerment Assessment (EA) and the criteria for a FS in the NCP. Respondents shall furnish all personnel, materials, and services necessary for, or incidental to, performing the Remedial Investigation at Pagel's Pit Landfill, a proposed National Priority List (NPL) site.

To the extent possible, the information and data reported in "Supplemental Investigation, Winnebago Reclamation Landfill, Rockford, IL." (SI) (March, 1985), prepared by Warzyn Engineering Inc., shall be incorporated by reference into the RI.

Specific objectives of the RI include the following:

- Define the extent to which observed releases of volatile organic compounds in the groundwater are attributable, if at all, to Pagel's Pit Landfill (Winnebago Reclamation Services Landfill).
- Evaluate the performance of the landfill, with emphasis placed on whether there are, have been or will be releases of contaminants into the groundwater system.
- Evaluate the effects of any known or potential releases from Pagel's Pit Landfill on the health and welfare of potential receptors.

All activities performed pursuant to this Statement of Work shall be consistent with applicable guidance including but not limited to, "Guidance on Remedial Investigations Under CERCLA", May 1985.

SCOPE

The Remedial Investigation consists of five tasks:

Task 1 - Initial Activities
Task 2 - Plans and Management
Task 3 - Site Investigation
Task 4 - Site Investigation Analysis
Task 5 - Laboratory and Bench-Scale Studies

TASK 1 - INITIAL ACTIVITIES

This task shall be conducted concurrent with Task 2, which is development of the Work Plan and associated documents.

Background information is contained in the SI and addresses many of the subtasks associated with Initial Activities. Therefore, only the following subtasks need be addressed in the RI.

Respondents shall complete the following:

Subtask 1A - Quality Assurance/Quality Control (QA/QC) Review of Existing Data

Prepare a summary of the QA/QC aspects associated with the existing data developed by the Respondent. The purpose is to validate the quality of the data and identify its utility. This shall include, at a minimum, QA/QC aspects of sampling procedures, chain of custody, well construction, and laboratory analytical procedures, and the extent to which QA/QC procedures and objectives were followed and met.

Subtask 1B - Site Visit

Conduct an initial site visit, attended by the respective Project Coordinators and any key field team leaders of Respondents' Consultant, to become familiar with site topography, access routes, and proximity of receptors to possible contamination and collect data for preparation of the Site Safety Plan. Proposed monitoring locations will be inspected and mutually agreed upon by U.S. EPA, and the Respondent's consultant. The visit should also be used to verify the site information developed in this task, and provide a common basis for further discussion of site conditions between U.S. EPA, and Respondents.

Subtask 1C - Site Map

U.S. EPA will supply reproducable mylars of recently prepared topographic site maps (and any other available associated maps or air photos).

The Pagel Respondents reserve the right to prepare their own maps, if desired.

Subtask 1D - Receptor and Pathway Identification

Perform a preliminary evaluation of potential pathways of exposure to receptors. The assessment shall identify specific potential receptors, along with potential pathways through which they might be exposed.

Potential exposures shall be briefly evaluated with regard to health, safety, and welfare risks. In addition, remedial technologies shall be identified that:

1) Could reduce or minimize release of contaminants to a particular pathway, or

2) Mitigate any potential impact of migration of contaminants through a pathway.

TASK 2 - PLANS AND MANAGEMENT

The Respondents shall prepare all necessary plans for the RI. The Work Plan shall include a detailed discussion of the technical approach, budget, personnel requirements, and schedules, as well as Subtasks 2A through 2D, below.

Based on this Statement of Work, project schedules are enclosed as Attachments 1-A and 1-B for the remedial investigation and feasibility studies, respectively. The schedules illustrate sequencing and duration of each of the major work elements of this RI/FS project. Document submittals, agency review times, expected laboratory turnaround times, and other potential activities, are also identified. A key decision point in the project is identified on the schedules after the second round of groundwater monitoring/analysis, and the preparation of the Interim Groundwater Quality Evaluation (see related discussion).

Specific intervals of time are allotted for completion of various tasks and reports in the attached schedules. Because of potential changes to the work, modifications to the project schedule may be required periodically to reflect necessary changes.

Respondents shall perform the following tasks:

Subtask 2A - Sampling Plan

Prepare a Sampling Plan to address all field activities to obtain additional site data. The plan shall contain at a minimum:

1) A statement of sampling objectives, specification of equipment, analyses of interest, sample types, and sample locations and frequency; and a schedule.

2) Types of investigations conducted (e.g., landfill characterization, hydrogeologic, soils and sediments, air and surface water).

3) The status of existing monitoring wells and piezometers.

4) The remedial technologies developed in Task 1.D., and identify data that may be needed to evaluate these technologies in the feasibility study.

5) Chain of Custody requirements in accordance with NEI Center policies.

Subtask 2B - Health and Safety Plan

A Site Health and Safety Plan will be prepared to protect the investigation team and nearby residents from potential hazards which may be present as a result of on-site investigation activities. The Plan shall:

1) Address applicable regulatory requirements and detail personnel responsibilties, protective equipment, procedures and protocols, decontamination, training, and medical surveillance;

2) Identify problems or hazards that may be encountered and their solutions.

3) Indicate procedures for protecting third parties, if necessary, such as visitors or the nearby residents; and

4) Take into consideration Facility conditions and be consistent with:

. Section 111(c)(6) of CERCLA

. EPA Order 1440.1 - Respiratory Protection

. EPA Order 1440.3 - Health and Safety Requirement for Employees Engaged in Field Activities

. EPA Occupational Health and Safety Manual

. EPA Interim Standard Operating Safety Procedures and other EPA guidance as developed by EPA.

Subtask 2C - Quality Assurance/Quality Control

Activity 2C.1 - Quality Assurance Project Plan

The respondents shall prepare and submit as part of the Work Plan a Quality Assurance Project Plan (QAPP) for the sampling, analysis, and data handling aspects of the remedial investigation. The plan shall be in accordance with "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," QAMS/005/80, Washington, D.C., U.S. EPA (1980), and "Preparation of State Lead Remedial Investigation, Quality Assurance Project Plans for Region V", April 4, 1984.

An alternative QA/QC documentation package may be substituted for the extensive standard Contract Laboratory Program (CLP) protocol with regard to preparation of written analytical documentation, if:

- The total QA/QC package is retrievible at a later date, if additional documentation is needed.
- The data is of a quality which is consistent with CLP generated data.
- The alternative package meets with U.S. EPA concurrence.

All analytical procedures, methods, practices and/or protocols will be at least as extensive as the U.S. EPA's Contract Laboratory Program. QA/QC documentation packages shall be consistent with U.S. EPA CLP protocol, except as provided for above.

Activity 2C.2 - Laboratory Approval

In addition to QAPP development, the laboratory shall be required to pass a laboratory performance audit prior to performing any task after Task 2, if the laboratory has not passed an audit within the last 3 months and if the laboratory is not currently an active CLP Laboratory. If requested, the

results of the previous PES (Performance Evaluation Samples) audit shall be submitted to U.S. EPA for review.

The maximum number of samples will be two concentration levels for every type of sample for each method. The PES are to be analyzed by protocols and methods to be used during the RI. If determined necessary by U.S. EPA, analysis of additonal PES samples may be required.

The Consultant or subconsultant laboratory is expected to quantify as well as qualify the parameters of interest. The results shall include all supporting data as specified by U.S. EPA and described when samples are forwarded to the laboratory.

An on-site laboratory visit may be performed by a U.S. EPA or Quality Assurance Officer to verify compliance with required analytical procedures. It is understood that Respondent's Consultant may conduct some of the laboratory testing, and subcontract the balance of analyses.

Subtask 2D - Permitting Requirements Plan

No permits are currently envisioned for activities performed pursuant to this Statement of Work. However, if it is determined that any permits are needed to perform any work pursuant to this Statement of Work or the Work Plan approved by U.S. EPA, the Respondents shall immediately submit to U.S. EPA the following information:

1) Identification of the permits needed, the governmental authority responsible for issuing such permits, and the review period; and

2) Methods to satisfy any permit requirements should be stated.

TASK 3 - FACILITY INVESTIGATION

Respondents shall conduct those investigations necessary to characterize the Facility and its actual or potential hazard to public health and the environment. The investigations shall result in data of adequate technical content to support an Endangerment Assessment (EA) and to support the development and evaluation of remedial alternatives during the Feasibility Study (FS). Investigation activities will focus on defining any environmental release of pollutants in the vicinity of the site and development of data to support the EA, and the identification and screening of alternative actions.

The facility investigation activities shall follow the plans set forth in Task 2. All sample analyses shall be conducted at the approved laboratories following the approved QAPP. Strict chain-of-custody procedures will be followed and all samples will be located on the site map obtained during Task 1.

Subtask 3A - Landfill Characterization

The landfill shall be characterized to determine if a release of contaminants to the environment has occurred, and what threat to public health, welfare or the environment is posed by the actual or potential future release of contaminants to the environment. The landfill characterization will consist of the following three subtasks:

Activity 3A.1 - Landfill Operation

A description of the operational history of the site shall be prepared. At a minimum, this description shall address:

1) Methods of waste placement compaction, and covering;

2) Characteristics of liner, waste and cover material;

3) Conceptual design and plan sheets of the gas extraction system

4) A summary of any prior environmental studies, such as the methane migration study previously completed by Warzyn Engineering, Inc.; and

5) Any additional information which may influence the release of contaminants from the site.

Any design and plan sheets for the gas recovery system will be held in confidence by U.S. EPA in accordance with the provision of 40 CFR, Part 2. The content of the plans will not be made public, or given to any unauthorized parties within the authority of 40 CFR, Part 2.

Activity 3A.2 - Leachate Sampling

On a bi-monthly basis for 10 months, six samples of leachate from the site shall be analyzed. The bi-monthly schedule may be adjusted to distribute sampling to better characterize seasonal variations in leachate quantity and quality. The scheduling will be such that three rounds of leachate samples will be collected before issuance of the Interim Groundwater Evaluation (Subtask 3B.5). No more than five sampling events will occur over the 10 month period. The samples shall be taken from withdrawal points acceptable to the U.S. EPA and provide an overall indication of site leachate character. Some compositing of leachate from individual extraction points may occur. Each composite will be considered one sample. Samples shall be analyzed for the following parameters:

. Volatile Organic Portion of the Hazardous Substance List
. Phenols
. Field pH
. Field Conductivity
. Total Alkalinity
. Chlorides
. Arsenic
. Barium
. Cadmium

The samples collected during the first sampling event shall be analyzed for the complete Hazardous Substance List (HSL), as described in Attachment 2. Parameters in addition to the above listed parameters may be added, to the subsequent four sampling events, based upon the results of the HSL analysis in the first sampling event. The selection of additional parameters shall be made by U.S. EPA in concert with Respondent's Consultant. In addition, a log shall be kept by site personnel for the duration of the RI, documenting any leachate seeps observed on the landfill's outer berm at the time of leachate level monitoring (monthly). The log will note the date, time, location, approximate flow rate and any observations (e.g. noticeable odors, color, etc.) made by the author of the log.

Activity 3A.3 - Water Balance Evaluation

The U.S. EPA HELP (Hydrologic Evaluation of Landfill Performance) model shall be used to obtain an indication of surface water infiltration rates into the landfill. The calculated infiltration rate shall be compared to leachate withdrawals and available information on leachate head levels within the site. Leachate level monitoring shall continue on a monthly basis throughout the RI. An effort shall be made to use site-specific data for parameter values to input into the model.

Subtask 3B - Hydrogeologic Investigation

Respondents shall conduct a program to determine the vertical and horizontal extent of groundwater contamination, to identify the source or sources of groundwater contamination, to evaluate the suitability of the site for on-site waste containment, and to identify aquifer characteristics. An accompanying sampling program to determine the horizontal and vertical distribution of

contaminants and to predict the long-term distribution of contaminants will be conducted. The potential for groundwater contamination migration beneath or into Killbuck Creek shall be evaluated. This investigation shall consist of the following subtasks:

Activity 3B.1 - Groundwater Monitoring System

The proposed monitoring well installation program at the site will be in two phases (1 and 2). In Phase 1, monitoring wells will be placed at the south-eastern and western margins of the Pagel's Pit Landfill site. In addition, some wells will also be installed west of Killbuck Creek to monitor groundwater downgradient from the site. The Phase 1 wells will be monitored for two rounds (see Groundwater Quality Monitoring), along with other wells already installed around the site. The purpose of the Phase 1 wells is to:

a. Determine water quality conditions at the margins of the Pagel Landfill site with respect to release of hazardous constituents from the site;

b. Determine the source for contamination that may be flowing down-gradient of the facility under Killbuck Creek;

c. Further evaluate groundwater flow patterns around the site to more effectively place Phase 2 wells, if installed;

d. Determine the need for installing additional wells west of Killbuck Creek by the Respondents, based on the types of contaminants detected in the first two rounds of sampling;

e. Determine the need for additional quarterly monitoring and leachate monitoring, based on the results of the first two rounds of sampling.

An Interim Groundwater Quality Evaluation will be prepared and submitted to the agencies (as described below), which will address the items above, prior to Phase 2 well installations. This report is considered a key decision point in the project.

Activity 3B.1a - Phase 1 Well Installations

Phase 1 wells include the installation of new wells B15P, G112, G113, G113A, G114, G115, G116, G116A, G117, G118, G118A, G119 and G119A. Replacement wells P3R and P4R shall (two well nest) be installed to replace abandoned wells P3, P4 and P5. Any other non-functional wells deemed necessary to the project will also be replaced, that were previously installed by Pagel's Pit Landfill representatives.

Attached Drawing C 11684-B5 shows approximate Phase I well locations. A brief discussion on each well location is provided below:

Phase I

P3R - In kind replacement for abandoned water table well P-3.

P4R - In kind replacement for abandoned piezometer well P-4.

B15P - Screened 30 feet below the water table to provide data on water quality at depth adjacent Well B-15.

G112 - A water table well (estimated to be 50 feet deep) between the landfill and two impacted water supply wells (G and H). The well may provide an indication if the landfill is impacting the water quality at the water supply wells.

G113, G113A - Nested wells (estimated to be 50 feet and 80 feet deep, respectively) adjacent to a water supply well (I), which appeared to be impacted, but is not currently functional. Determination of flow direction and groundwater quality may provide an indication of the source of contamination at the water supply well.

G114 - A water table well (estimated to be 45 feet deep) adjacent to the landfill in an area of contaminated groundwater. The well may provide an indication as to whether mounding is occurring under the landfill, and the origin of contaminated groundwater in the area.

G115 - A water table well (estimated to be 40 feet deep) located along the southwest perimeter of the landfill, to monitor for any releases from that portion of the landfill, and to provide data on the relationship between groundwater flow and Killbuck Creek.

G116, G116-A - Nested wells (estimated to be 30 feet and 60 feet deep, respectively) to be placed west of Killbuck Creek to evaluate potential migration of contaminants beneath the creek, and to help define the hydraulic relationship between Killbuck Creek and groundwater flow.

G117 - A water table well (estimated to be 30 feet deep) adjacent to the landfill and upgradient of impacted monitoring wells (MW-106, P1, P7); this well may provide an indication of landfill releases, and data on the hydraulic relationship between groundwater flow and Killbuck Creek.

G118, G118-A - A nest of wells (estimated to be 30 feet and 60 feet deep) in an area which appears to be downgradient of monitoring wells B15 and B15R. These wells will help evaluate the extent of any releases from the landfill.

G119, G119A - A water table well (30 feet deep) and a piezometer (estimated to be 60 feet deep) to help define the hydraulic relationship between groundwater flow toward Killbuck Creek, and to assist in the evaluation as to whether there are releases from the landfill.

Activity 38.1b - Phase 2 Well Installation

New Wells G120, G121, G121A, G122 and G122A are identified as Phase 2 wells (see Drawing C 11684-B5). These wells, or a modification thereof, will be installed by the Respondents, if the first two rounds of water quality monitoring indicate that the Pagel's Pit Landfill is or appears likely to be responsible for contaminant impacts west of Killbuck Creek. The water quality conditions at the western end of the Pagel's Pit Landfill and the western side of Killbuck Creek will be described in the Interim Groundwater Quality Evaluation Report.

Phase II

G120 - This well is estimated to be 30 feet deep and has a similar purpose to those stated for G119.

G-121, G121A - Nested wells (estimated to be 30 feet to 60 feet deep, respectively) placed west of Killbuck Creek, to evaluate potential migration of contaminants beneath the creek, and determine hydraulic relationship between groundwter flow and Killbuck Creek.

G122, G122-A - These wells with estimated depths of 40 and 70 feet have the same purpose as G116 and G116-A.

At each location where a single well or nest of wells will be installed, the deep boring performed shall be sampled to its terminus. The unconsolidated materials shall be sampled at five foot intervals using a 2-inch outside diameter split barrel sampler. Bedrock will be sampled by HW size of rock coring barrel. All soil and rock samples shall be logged in the field by a geologist who will observe drilling operations. All soil and rock samples shall be retained by the Respondents' Consultants.

Representative soil and rock samples shall be provided to U.S. EPA representatives at their request, in the field. These samples shall first be screened with OVA or HNU to determine the potential for contamination by organic vapors. All samples will be retained by the Respondents Consultants for a period of one year. U.S. EPA may review the samples at the Respondents Consultant's facility.

All monitoring wells shall be constructed with two-inch inside diameter, stainless steel screens and riser pipe to a level above the anticipated groundwater elevation. Galvanized steel riser pipe will be used above the seasonal high groundwater elevation to ground surface. The well construction will minimize contact of groundwater with galvanized metal. The well screens shall be five feet (nominal) in length for piezometers and ten feet (nominal) in length for water table wells. The annular space between the well materials and the edge of the bore hole shall be backfilled to two feet above the top of the well screen with clean flint sand. The remainder of the annular space shall be backfilled with 2 feet of bentonite pellets over the sand, followed by bentonite cement slurry. All wells shall have locking protective casings installed at the surface.

Threaded, flush joint schedule 40 PVC may be substituted for all well pipe and screen construction materials with concurrence from U.S. EPA. All other installation procedures would be as described above.

To minimize possible cross contamination of the wells, decontamination procedures shall be used. The decontamination procedures will include cleaning of drilling rigs and drilling tools by steam cleaning prior to the start of drilling at each location. All well construction materials shall also be steam cleaned prior to use. Additional decontamination details will be described in the Work Plan.

For safety, all personnel will be required to wear protective clothing (Level D, minimum). The extent of protective equipment required shall be partially dependent upon results of continous air monitoirng. The monitoring of volatile organics shall be used to aid in piezometer screen placement, if significant levels are detected in soil samples or rock cores. An effort will be made by the field personnel to contact U.S. EPA regarding changes to the anticipated well screen placements.

Activity 3B.2 - Surveying

All newly installed monitoring wells shall be surveyed to determine their location and elevation(mean sea level). The monitoring wells shall be located using transit and stadia and level circuit methods to a vertical accuracy of +0.01 foot, and a horizontal accuracy of +1.0 ft.

Activity 3B.3 - Groundwater Flow Characterization

Groundwater level monitoring shall occur on a monthly basis. All wells installed for the RI and all functioning previously installed wells shall be monitored.

Field permeability tests shall be performed at fifteen of the monitoring wells installed for the RI. U.S. EPA in concert with Respondent's Consultant, shall select the wells to be tested. Selection of the wells will be based on observations during drilling and results of the first set of groundwater quality data (see below).

Activity 3B.4 - Groundwater Quality Monitoring

Four rounds of water quality monitoring are proposed. An evaluation of the data will be made after the first two rounds of sampling/analysis to determine the need for the final two rounds of monitoring, and the need for additional wells to be installed west of Killbuck Creek and monitored by the Respondents.

Activity 3B.4a - Rounds 1 and 2

In Rounds 1 and 2, new Phase 1 Wells plus existing monitoring wells B-4, B-6S, B-6D, B-7, B-9, B-10, B-11, B-11A, B-12, B-14, B-13, B-15R, B-15P, B-16, B-16A, G-107, G-108, G-109, G-109A, G-110 and G-111, P-1, P-6, P-7, MW-105, MW-106, replacement wells P-3R and P-4R and six wells installed between the two sites as part of an Acme Solvents site investigation, will be sampled (see Drawing C 11684-85). In addition, the private well at the farm southwest of Pagel's Pit Landfill will be sampled, for a total of 48 wells. The wells will be sampled approximately 6 weeks apart.

Seventeen wells will be sampled/analyzed in Round 1 for HSL parameters (see Attachment 2), including:

1. Monitoring Wells B-15R and B-15P, G-109 and G-109A, G-115, G-116 and G-116A, G-117, G-118 and G-118A, MW-106 and P-1, and the two replacement wells, P-3R and P-4R.

2. One three-well nest between the two sites (total of three samples), to be installed during Acme Solvent's site investigation.

These wells are closest in proximity to the Pagel's Pit Landfill site margins, or are downgradient from the facility. These wells are expected to provide information as to whether hazardous constituents are originating from the Pagel's Pit Landfill, and further, whether the HSL parameters should be extended to other wells in subsequent rounds of monitoring. Upgradient wells between Acme and Pagel's Pit Landfill are also included in Round 1 monitoring.

The remaining 31 wells to be sampled in Round 1 will be analyzed for the same basic parameters as leachate (excluding HSL Parameters except volatile organics).

The second round of sampling will be the same as the first. The parameters will be the basic leachate set and other parameters that may be added by U.S. EPA after discussion with the Respondents' Consultant.

Activity 3B.4b - Rounds 3 and 4

At a minimum, 15 monitoring wells (including all Phase 2 wells) and one private well will be sampled in Rounds 3 and 4, except as modified by the Interim Groundwater Quality Evaluation. Parameters will be the same as for Round 2 analyses.

Activity 38.5 - Interim Groundwater Quality Evaluation

At the end of Round 1 and 2 monitoring, an interim water quality report will be submitted to the agencies for review and comment. The report will present water quality data and supporting information to evaluate:

1. The likely sources of contaminants in groundwater at the western margins of the Pagel's Pit Landfill;
2. The likely sources of contaminants in groundwater west of Killbuck Creek, if any;
3. The likely sources of contaminants to Killbuck Creek, if any;
4. The necessity for installation of Phase 2 monitoring wells west of Killbuck Creek by the Respondents;
5. The necessity for and details of sampling and analysis in Rounds 3 and 4 by Respondents.

Agreement will be made between the agencies and the Respondents on the items listed above, with any subsequent modifications to the Work Plan made as a result of the agreements.

If it is determined Pagel's Pit Landfill is responsible for contamination west of Killbuck Creek, or if the extent (areal and/or vertical) of contamination originating from Pagel's Pit Landfill has not been determined, then the Phase 2 Well installations (or a modification thereof) and sampling/analysis in Rounds 3 and 4 will be implemented.

If Pagel's Pit Landfill is not found to be responsible for impacts west of the Creek, then the Phase 2 wells will not be installed by the Respondents, and rounds 3 and 4 of groundwater quality monitoring and leachate monitoring will not be performed by Respondents. At that point, the Facility Investigation

Analysis Report, Endangerment Assessment and Feasibility Study will be initiated by Respondents, and any necessary modifications to the Work Plan prepared.

In the event that Pagel's Pit Landfill and Acme Solvents are both required to further investigate the areal and vertical extent of contamination originating from their respective facilities, an attempt will be made to coordinate the investigations.

The sampling program assumes that the wells referenced as part of the Acme Solvents investigation will be installed, and further, they will be accessible for sampling by Respondents. Changes in the Acme Solvents well installation program or inability to gain access wells to under Acme Solvents control will necessitate changes in the program.

Subtask 3C - Sediment Investigation

Sediment samples shall be collected from five locations in Killbuck Creek. Four of the samples shall be from locations adjacent to or downstream of the landfill. The additional sample will be from a location upstream of the landfill. Each sample shall consist of five subsamples taken at representative points along the eastern side of the stream profile. The stream sediment samples shall have HSL parameter analyses performed on the extract. The sediment samples shall be collected concurrent with Phase 1 drilling operations.

Subtask 3D - Surface Water Investigation

Surface water samples from Killbuck Creek shall be collected concurrent with the collection of the Round 1 and 2 groundwater samples. The creek shall be sampled at the locations where sediment samples were collected. The surface

water and sediment sampling shall be staged so that sediment sampling does not affect the turbidity of the water samples. The surface water samples shall be analyzed for the same parameter set run on leachate and groundwater samples. If the HSL analyses of the sediment samples indicate significant amounts of potentially hazardous materials are present, additional analyses may be required on surface water samples, by U.S. EPA after consultation with Respondents' Consultant.

Subtask 3E - Air Investigation

A two-phased air investigation will be conducted at the site. Phase I will be to collect gases from the riser vents that already exist at the site, concurrent with the first leachate sampling event at the site. A laboratory pilot study will be conducted to determine if volatile organic gases can be measured in the collected samples (methane gases may mask the other organic gases). If volatile organic gases other than methane are detected in the riser samples, the data will be used to evaluate similar parameters at off-site locations, in Phase 2 monitoring.

Phase 2 is a program to characterize potential air contamination off-site. This program shall use the analysis of landfill gas, in Phase 1, to establish the types of potentially migrating gases. Off-site gas monitoring will be conducted at the property boundaries of the landfill site, to determine if organic gases from the landfill are migrating beyond property boundaries. The property boundary monitoring will consider the type, concentration and toxicity of individual volatile organic compounds measured. The results will be used to evaluate the potential health impacts at downwind receptors. If the evaluation indicates downward receptors are potentially impacted by

migrating toxic gases, a plan to routinely monitor gases at site boundaries will be prepared. The plan will include at least one upwind and three downwind sampling stations. The plan will specify real-time air quality monitoring at the four stations. The air monitoring data will be evaluated in the Endangerment Assessment.

Subtask 3F - Biological Investigation

A sampling of the biota and animal life in Killbuck Creek is not included in the plan and will only be made if significant contamination is identified in sediment or surface water samples. The need for this investigation shall be determined by U.S. EPA after consultation with Respondents' Consultant.

TASK 4 - FACILITY INVESTIGATION ANALYSIS

Respondents shall prepare a thorough written analysis and summary of all facility (site) investigations and their results. The objective of this task will be to determine that the data are of sufficient quality and quantity to support the Feasibility Study. Also, the analysis will attempt to delineate sources of released contaminants such that the impacts from Pagel landfill and Acme Solvents can be distinguished. A review of QA/QC procedures followed for the sampling, analysis and data handling aspects of the RI as required by the approved QAPP, shall be made to identify the extent to which the QAPP was adhered to and any limitations in data usage based on deviations from the QAPP.

The results and data from all facility investigations will be organized and presented logically so that the relationships between facility investigations for each medium are apparent. All facility investigation data will be analyzed

and a summary will be developed regarding the type and extent of contamination at or from the facility.

The summary will describe the quantities and concentration of specific chemicals at the facility and ambient levels surrounding the site. A description will be made of the number, locations, and types of nearby populations and activities and pathways, that may result in an actual or potential threat to public health, welfare, or the environment. Five copies of a draft Facility Investigation Analysis report will be submitted to both U.S. EPA and IEPA. After U.S. EPA review of the draft report, a meeting will be held between the Agencies and representatives of the Respondents to review report comments. Five copies of the final report will also be submitted to both U.S. EPA and IEPA.

TASK 5 - LABORATORY AND BENCH-SCALE STUDIES

If determined necessary by U.S. EPA after discussion with Respondents' Consultant, the Respondents shall:

1. Conduct laboratory and/or bench-scale studies to determine the applicability of remedial technologies to site conditions and problems determined to be of concern based upon the criteria set forth in the NCP. Analyze the technologies, based on literature review, vendor contacts, and past experience to determine what, if any, testing should be undertaken. The scope of any such testing will be limited to technologies and/or processes which will be effective in mitigating the conditions, if any, that are a significant threat to public health and welfare and the environment, and are attributable to the Pagel facility.

2. If testing is determined to be necessary, develop a testing plan identifying the type(s) and goal(s) of the study(ies), the level of effort needed, and data management and interpretation guidelines for submission to U.S: EPA for review and approval.

3. Upon completion of the testing, evaluate the results to assess the technologies with respect to the site-specific questions identified in the test plan. Scale up those technologies selected based on testing results.

4. Prepare a report summarizing the testing program and its results, both positive and negative.

The approach, implementation, and evaluation of test results, will be directed toward evaluation of remedial action alternatives in a manner consistent with the NCP. The timetable for this task is flexible and implementation will be determined by identifying potential remedial actions which would address releases (if any) from the facility.

FEASIBILITY STUDY

PURPOSE

The purpose of this Feasibility Study (FS) is to:

1. Perform an Endangerment Assessment (EA) to evaluate the effects of any known or potential releases from Pagel's Pit Landfill on the public health, welfare or the environment, and

2. Develop and evaluate remedial alternatives for the Pagel's Pit Landfill Facility. Respondents shall furnish the necesssary personnel, materials, and services necessary to prepare the remedial action feasibility study, except as otherwise specified. This FS shall be conducted in accordance with available U.S. EPA guidance, including "Guidance on Feasibility Studies Under CERCLA" (June, 1985)

SCOPE

The feasibility study consists of seven tasks plus the Community Relations Support:

Task 6 - Work Plan Development
Task 7 - Endangerment Assessment
Task 8 - Screening of Preliminary Remedial Technologies
Task 9 - Development of Alternatives
Task 10 - Initial Screening of Alternatives
Task 11 - Evaluation of the Alternatives
Task 12 - Final Report

TASK 6 - WORK PLAN DEVELOPMENT

A draft Work Plan that includes a detailed technical approach, a budget, personnel requirements, and schedules for the FS shall be prepared by the Respondents and submitted to U.S. EPA for review and approval. A copy of the Draft Work Plan shall be sent to IEPA for review.

TASK 7 - ENDANGERMENT ASSESSMENT

Based upon the data contained in the Remedial Investigation Report, and other available relevant data, an Endangerment Assessment (EA) shall be

performed. The EA shall assess the potential dangers to the public health, welfare and the environment. Existing standards shall be reviewed to evaluate potential exposures. The performance of the Endangerment Assessment shall be consistent with U.S. EPA guidance.

The following items shall be included as part of the Endangerment Assessment:

Item 1. Outline of the Endangerment Assessment;

Item 2. Identify the constituents detected at the Pagel's Pit Landfill, their concentration and estimated total mass, and target the more important constituents for consideration in the Endangerment Assessment;

Item 3. Review the toxicity of and identify any available standards or criteria for the targeted constituents;

Item 4. Discuss the fate and transport of the targeted constituents;

Item 5. Identify the exposure pathways and the populations at risk;

Item 6. Characterize the risks to the various populations; and

Item 7. Prepare a Final Endangerment Assessment Report.

An outline of the proposed Endangerment Assessment (Item 1) will be submitted to the agencies for review. This will be submitted after Round 2 groundwater monitoring results are evaluated.

A second submittal will identify the information required in Item 2. The focus of this submittal will be to obtain agreement with the agencies on the targeted contaminants.

A draft Endangerment Assessment report will be prepared for agency review, encompassing the requirements of Items 1 through 6. The agencies will prepare written review comments, Responses to agency review comments will

be incorporated into the first draft and resubmitted to the agencies in the form of a second draft report.

A final Endangerment Assessment (Item 7) will be submitted after agency review comments are received on the second draft report.

TASK 8 - SCREENING OF PRELIMINARY REMEDIAL TECHNOLOGIES

Based on the site-specific findings, Respondents shall evaluate the master list of potentially feasible technologies developed in Task 1D. The master list will be screened based on site conditions, waste characteristics, and technical requirements, to eliminate or modify those technologies that may prove extremely difficult to implement, will require unreasonable time periods, or will rely on insufficiently developed technology. The results of this task, including specific rationale for excluding any technology, shall be presented to U.S. EPA in a separate report. Additional information needed to evaluate any technology shall also be identified.

TASK 9 - DEVELOPMENT OF ALTERNATIVES

Based on the results of the RI and consideration of preliminary remedial technologies (Task 8) and the EA report (Task 7), Respondents shall develop a limited number of alternatives for source control or off site remedial actions, or both, to address actual or potential threat to public health, welfare or the environment.

Subtask 9A - Establishment of Remedial Response Objectives

Site-specific objectives will be based on public health and environmental concerns, the description of the current situation (from the SI), other

available information gathered during the RI, Section 300.68 of the National Contingency Plan (NCP), U.S. EPA's interim guidance, and the requirements of any other applicable U.S. EPA, Federal, and State environmental standards, guidance, and advisories as defined under U.S. EPA's "CERCLA Compliance with other Environmental Statutes," October 2, 1985. Objectives for source control measures, if and to the extent appropriate, will be developed to prevent or significantly minimize migration of contamination from the site. Objectives for management of migration measures, if and to the extent appropriate, should prevent or minimize impacts of contamination that has migrated from the site. Preliminary cleanup objectives will be developed in consultation with U.S. EPA.

Subtask 9B - Development of Response Action Levels

Develop site-specific response action levels based upon the results of the Endangerment Assessment, Task 8. Existing Federal or State standards shall be used, whenever relevant and appropriate.

Subtask 9C - Identification of Remedial Alternatives

Develop alternatives to incorporate remedial technologies (from Task 9), response objectives, response action levels, and other appropriate considerations into a comprehensive, site-specific approach. Alternatives developed should include the following:

- Alternatives for off-site treatment or disposal, as appropriate.
- Alternatives which attain applicable and/or relevant Federal public health or environmental standards and establish reponse action levels.
- Alternatives which exceed applicable and/or relevant public health or environmental standards and established reponse action levels.

There may be overlap among the alternatives developed. Further, alternatives outside of these categories may also be developed, such as non-cleanup alternatives (e.g., alternative water supply, monitoring program, or institutional controls), and the no action alternative. The alternatives shall be developed in close consultation with U.S. EPA. The Consultant shall document the rationale for excluding any technology in the development of alternatives that passed the screening in Task 8.

TASK 10 - INITIAL SCREENING OF ALTERNATIVES

The alternatives developed in Task 9 shall be screened by the Consultant to eliminate those that are clearly unfeasible or inappropriate, prior to undertaking detailed evaluations of the remaining alternatives. Considerations to be used in initial screening shall include:

. Environmental Protection

Only those alternatives that satisfy the response objectives and contribute substantially to the protection of public health, welfare, or the environment will be considered further. Source control alternatives will be considered if they achieve adequate control of source materials. Management of migration alternatives will be considered if they minimize or mitigate the threat of harm to public health, welfare, or the environment.

. Environmental Effects

Alternatives posing significant adverse environmental effects will be excluded.

. Technical Feasibility

Technologies that may prove extremely difficult to implement, will not achieve the remedial objectives in a reasonable time period, or will rely upon unproven technology will be modified or eliminated.

. Institutional Issues

Compliance with federal, state and local standards specifically including NPDES, POTW, and Clean Air Act permitting. Also compliance with criteria guidance found in the EPA Groundwater Protection Strategy, recommended maximum contaminant levels (RMCLs), health advisories and

EPA water quality criteria. Other issues to be evaluated include public involvement, community affects, and historic and archeological sites.

. Costs

Capital, operation and maintenance, and present worth costs will be considered, to compare costs of potential alternatives. Ability to meet response action levels will be the overriding concern.

TASK 11 - EVALUATION OF THE ALTERNATIVES

Respondents shall evaluate the cost-effectiveness of each remedial alternative that passes through the initial screening in Task 10. Alternative evaluation will be preceded by detailed development of the remaining alternatives.

Subtask 11A - Detailed Development of Alternatives and Technical Analysis

The Detailed Development and Technical Analysis shall, at a minimum:

1. Describe appropriate treatment, storage, and disposal technologies.

2. Discuss how the alternative does (or does not) comply with specific requirements of other environmental programs. When an alternative does not comply, discuss how the alternative prevents or minimizes the migration of waste contaminants or constituents and public health or environmental impacts and describe special design needs that could be implemented to achieve compliance.

3. Outline operation, maintenance, and monitoring requirements of the remedy.

4. Identify and review potential off-site facilities for compliance with applicable RCRA and other U.S. EPA environmental program requirements, both current and proposed. Potential disposal facilities should be evaluated to determine whether off-site management of site wastes could result in potential for a future release from the disposal facility.

5. Identify temporary storage requirements, off-site disposal needs, and transportation plans.

6. Describe whether the alternative results in permanent treatment or destruction of the wastes, and, if not, the potential for future release to the environment.

7. Outline safety requirements for remedial implementation (including both on-site and off-site health and safety considerations).

8. Describe how the alternative could be phased into individual operable units. The description should include a discussion of how various operable units of the total remedy could be implemented individually or combined, to result in a significant improvement to the environment or savings in cost.

9. Describe how the alternative could be segmented into areas to allow implementation in differing phases.

10. Describe special engineering requirements of the remedy or site preparation considerations.

11. Identify capital and operation and maintenance costs in present worth value. O&M will be calculated for a thirty year period after the implementation or installation of any remedial action, which involves on-site land disposal of hazardous substances.

Subtask 11B - Environmental Analysis

The Environmental Assessment will be performed and focus on the site problems and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative shall include, at a minimum, an evaluation of the beneficial effects of the response, adverse effects of the response, and an analysis of measures to mitigate adverse effects. The no action alternative and the Endangerment Assessment will serve as the baseline for the analysis.

Subtask 11C - Public Health Analysis

Each alternative shall be assessed in terms of the extent to which it mitigates long-term exposure to any residual contamination, protects public health both during and after completion of the remedial action, meets the response objectives developed in Task 9A, and the response action levels development in Task 9B. The assessment shall describe the levels and characterization of contaminants on-site, potential exposure routes, and potentially affected population. The effect of "no action" shall be described in terms of short-

term effects, long-term exposure to hazardous substances, and resulting public health impacts. Each remedial alternative shall be evaluated to determine the level of exposure to contaminants and the reduction over time. The relative reduction in public health impacts for each alterantive will be compared to the no-action level. For management of migration measures, the relative reduction in impact shall be determined by comparing residual contaminant levels of each alternative with existing applicable, relevant and appropriate criteria to meet the intent of the NCP. For source control measures or when criteria, standards, or guidelines are not available, the comparison shall be based on the relative effectiveness of technologies. The no-action alternative and the Endangerment Assessment will serve as the baseline for the analysis.

Subtask 11D - Institutional Analysis

Each alternative shall be evaluated based on relevant institutional needs. Specifically, regulatory requirements, permits, community relations, and participating Agency coordination will be assessed.

Subtask 11E - Cost Analysis

The cost of each feasible remedial action alternative (and for each phase or segment of the alternative) will be evaluated. Both monetary costs and associated non-monetary costs shall be included. A distribution of costs over time shall be provided for each alternative.

Subtask 11F - Evaluation of Cost-Effective Alternatives

Alternatives shall be compared using technical, environmental, and economic criteria. Preference shall be given to those alternatives that permanently

treat or destroy the hazardous substances present. The following should be used to compare alternatives, unless U.S. EPA agree that certain items need not be considered:

1. Present Worth of Total Costs

The net present value of capital and operating and maintenance costs must be presented.

2. Health Information

For the no-action alternative, U.S. EPA prefers a quantitative statement including a range estimate of maximum individual risks. Where quantification is not possible, a qualitative analysis may suffice. For source control options, a quantitative risk assessment is not required. For mangement of migration measures, present a quantitative risk assessment including a range estimate of maximum individual risks.

3. Environmental Effects

Only the most important effects or impacts shall be summarized. Reference can be made to supplemental information in a separate table, if necessary.

4. Technical Aspects of the Remedial Alternatives

The technical aspects of each remedial alternative relative to the others shall be clearly delineated. Such information generally will be based on the site conditions and the technologies comprising the remedial alternative.

5. Information on the Extent to Which Remedial Alternatives Meet the Technical Requirements and Environmental Standards of Applicable Environmental Regulations

This information shall be displayed so that differences in how remedial alternatives satisfy such standards are readily apparent. The general types of standards that may be applicable at the site include, but are not limited to:

a. RCRA - design and operating standards; and
b. Drinking water standards and criteria.

6. Information on Community Effects

The type of information that should be provided is the extent to which implementation of a remedial alternative disrupts the community (e.g., traffic, temporary health risk, and relocation).

7. Other Factors

This category of information would include such things as institutional factors that may inhibit implementing a remedial alternative and any

other site-specific factors identified in the course of the detailed analysis that may influence which alternative is eventually selected.

TASK 12 - FINAL REPORT

Respondents shall prepare a draft final report for submission to U.S. EPA and IEPA. The draft report shall include the results of Tasks 9 through 12, and should include any supplemental information in appendices. Five copies will be submitted to U.S. EPA and IEPA, each. After review and comment by U.S. EPA, Respondents shall finalize the final report.

ONGOING ACTIVITIES

Community relations suport, monthly progress reporting and meetings will be ongoing activities throughout the course of the RI/FS.

TASK 13 - COMMUNITY RELATIONS SUPPORT

U.S. EPA will work closely with the Respondents, and allow them to participate and provide support for appropriate community relation actions, whenever possible. The objectives of this effort are to achieve community understanding of the actions taken and to keep the community aware of the progress and the direction of ongoing activities.

All community relations support must be consistent with Superfund community relations policy, as stated in the U.S. EPA Guidance Document entitled "Community Relations in Superfund: A Handbook" (September, 1983), as revised, and in accordance with the U.S. EPA approved Community Relations Plan (CRP) for this site.

TASK 14 - MONTHLY PROGRESS REPORTS

Respondents shall provide monthly written progress reports to USEPA and IEPA containing a description of the technical progress of all the work performed to date as well as specifically identifying that work which was performed during the previous month and describing planned activities for the next month. These progress reports will be submitted to USEPA and IEPA by the tenth day of every month following the effective date of this Consent Order, until termination of the RI/FS.

At a minimum, these progress reports shall:

1. Identify the site and task;

2. Describe the status of work at the site and progress to date, specifically identifying work which was performed during the previous month.

3. List by task and/or subtask, the estimated percent completion, with comparison to actual or proposed completion dates, and explanations of deviations from the proposed milestones. It is anticipated that this will be a computerized output updated monthly.

4. Describe difficulties encountered during the reporting period and actions taken to rectify the problem.

5. Describe activities planned for the next month.

6. Identify changes in personnel.

7. Representative photo-documentation, when pertinent and available, of major actions or features of the site during field activities.

8. Contain technical data that has gone through internal quality control and is in a format suitable for submittal. The data, such as analytical results, boring logs, well construction details and groundwater surface elevations, will be submitted periodically and will not necessarily be submitted in the month it is collected.

MEETINGS

Meetings have been scheduled at key points throughout the RI/FS to facilitate communications between the agencies, PRPs and consultants. The intent of the meetings is to discuss project progress and problems, review agency comments on draft reports, and to evaluate any necessary changes to the Work Plan and/or project schedule.

JAH/DWH/ndj
[ndj-39-1]

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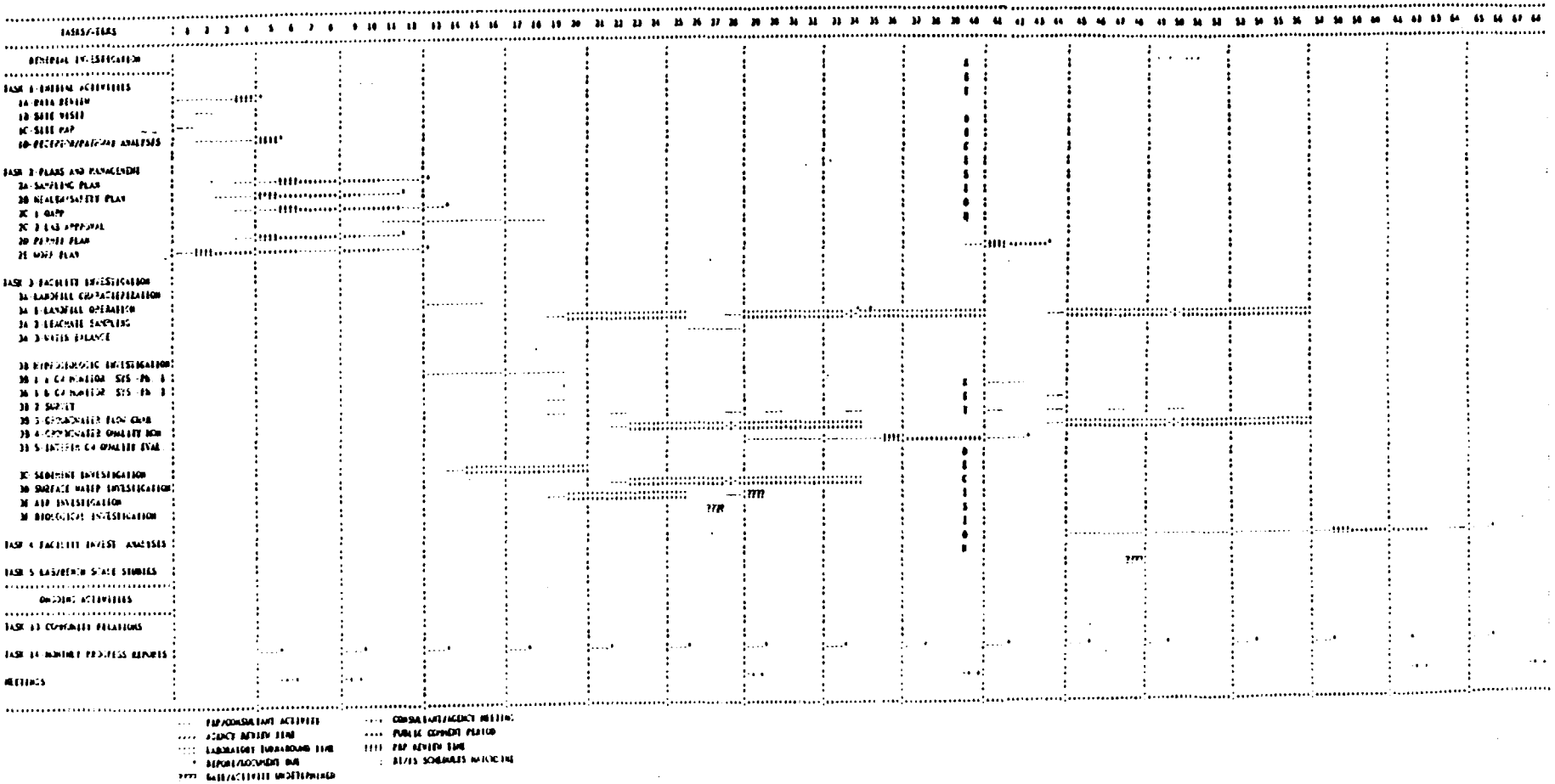
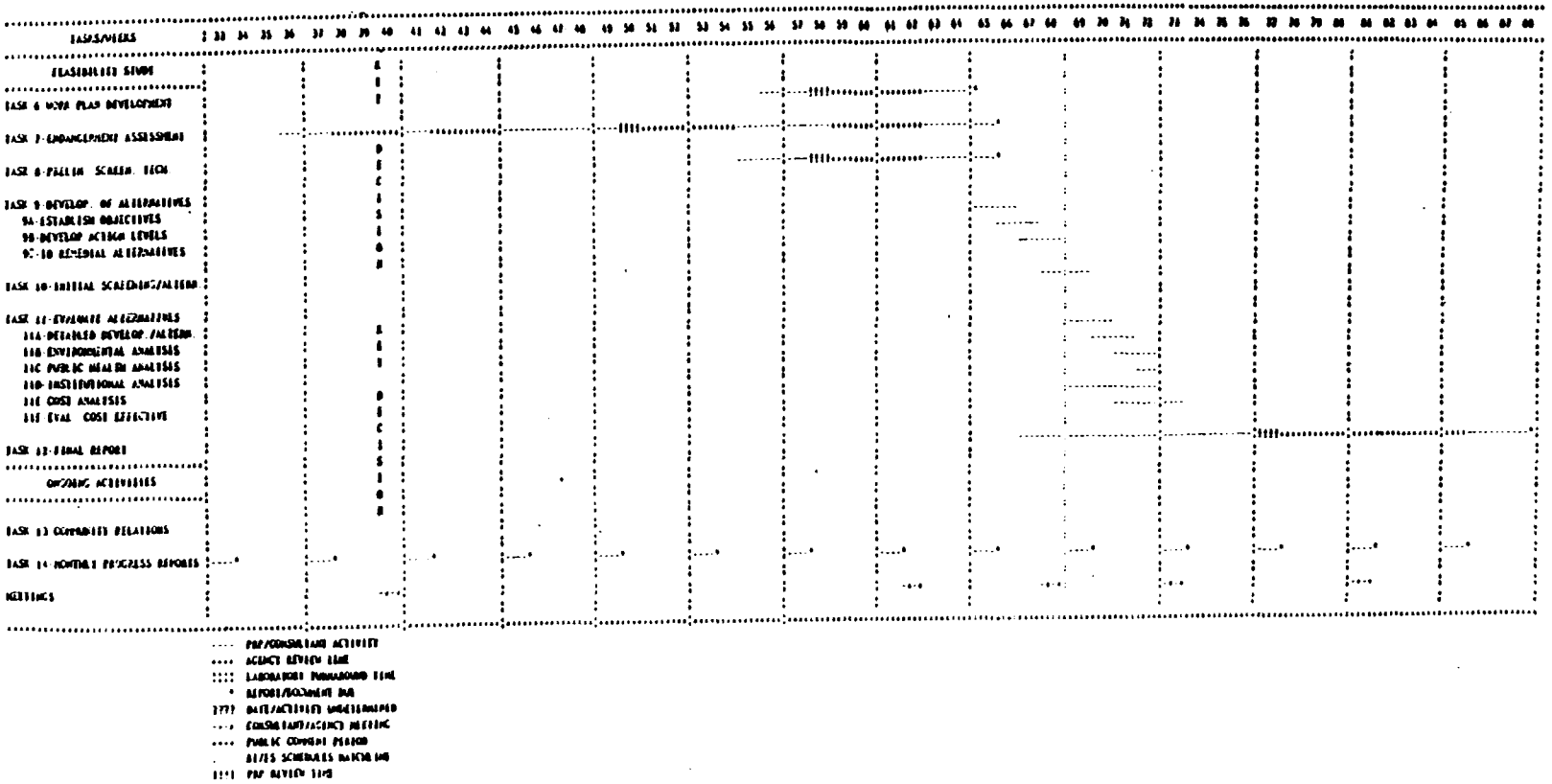
ATTACHMENT 1-A

PAGEL LANDFILL REMEDIAL INVESTIGATION SCHEDULE



ATTACHMENT 1 B
PAGEL LANDFILL FEASIBILITY STUDY SCHEDULE



VOLATILES

1. Chloromethane
2. Bromomethane
3. Vinyl Chloride
4. Chloroethane
5. Methylene Chloride
6. Acetone
7. Carbon Disulfide
8. 1,1-Dichloroethene
9. 1,1-Dichloroethane
10. trans-1,2-Dichloroethene
11. Chloroform
12. 1,2-Dichloroethane
13. 2-Butanone
14. 1,1,1-Trichloroethane
15. Carbon Tetrachloride
16. Vinyl Acetate
17. Bromodichloromethane
18. 1,1,2,2-Tetrachloroethane
19. 1,2-Dichloropropane
20. trans-1,3-Dichloropropene
21. Trichloroethene
22. Dibromochloromethane
23. 1,1,2-Trichloroethane
24. Benzene
25. cis-1,3-Dichloropropene
26. 2-Chloroethyl Vinyl Ether
27. Bromoform
28. 2-Hexanone
29. 4-Methyl-2-pentanone
30. Tetrachloroethene
31. Toluene
32. Chlorobenzene
33. Ethyl Benzene
34. Styrene
35. Total Xylenes

SEMI-VOLATILES

36. N-Nitrosodimethylamine
37. Phenol
38. Aniline
39. bis(2-Chloroethyl) ether
40. 2-Chlorophenol
41. 1,3-Dichlorobenzene
42. 1,4-Dichlorobenzene
43. Benzyl Alcohol
44. 1,2-Dichlorobenzene
45. 2-Methylphenol
46. bis(2-Chloroisopropyl) ether
47. [illegible]
48. [illegible]
49. Hexachloroethane
50. Nitrobenzene

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SEMI-VOLATILES

51. Isophorone
52. 2-Nitrophenol
53. 2,4-Dimethylphenol
54. Benzoic Acid
55. bis(2-Chloroethoxy) methane
56. 2,4-Dichlorophenol
57. 1,2,4-Trichlorobenzene
58. Naphthalene
59. 4-Chloroaniline
60. Hexachlorobutadiene
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)
62. 2-Methylnaphthalene
63. Hexachlorocyclopentadiene
64. 2,4,6-Trichlorophenol
65. 2,4,5-Trichlorophenol
66. 2-Chloronaphthalene
67. 2-Nitroaniline
68. Dimethyl Phthalate
69. Acenaphthylene
70. 3-Nitroaniline
71. Acenaphthene
72. 2,4-Dinitrophenol
73. 4-Nitrophenol
74. Dibenzofuran
75. 2,4-Dinitrotoluene
76. 2,6-Dinitrotoluene
77. Diethylphthalate
78. 4-Chlorophenyl Phenyl ether
79. Fluorene
80. 4-Nitroaniline
81. 4,6-dinitro-2-methylphenol
82. N-nitrosodiphenylamine
83. 4-Bromophenyl Phenyl ether
84. Hexachlorobenzene
85. Pentachlorophenol
86. Phenanthrene
87. Anthracene
88. Di-n-butylphthalate
89. Fluoranthene
90. Benzidine
91. Pyrene
92. Butyl Benzyl Phthalate
93. 3,3'-Dichlorobenzidine
94. Benzo(a)anthracene
95. bis(2-ethylhexyl)phthalate
96. Chrysene
97. Di-n-octyl Phthalate
98. Benzo(b)fluoranthene
99. Benzo(k)fluoranthene
100. Benzo(a)pyrene

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SEMI-VOLATILES

101. Indeno(1,2,3-cd)pyrene
102. Dibenzo(a,h)anthracene
103. Benzo(g,h,i)perylene

PESTICIDES

104. alpha-BHC
105. beta-BHC
106. delta-BHC
107. gamma-BHC (Lindane)
108. Heptachlor
109. Aldrin
110. Heptachlor Epoxide
111. Endosulfan I
112. Dieldrin
113. 4,4'-DDE
114. Endrin
115. Endosulfan II
116. 4,4' DDD
117. Endrin Aldehyde
118. Endosulfan Sulfate
119. 4,4'DDT
120. Endrin Ketone
121. Methoxychlor
122. Chlordane
123. Toxaphene
124. AROCLOR-1016
125. AROCLOR-1221
126. AROCLOR-1232
127. AROCLOR-1242
128. AROCLOR-1248
129. AROCLOR-1254
130. AROCLOR-1260

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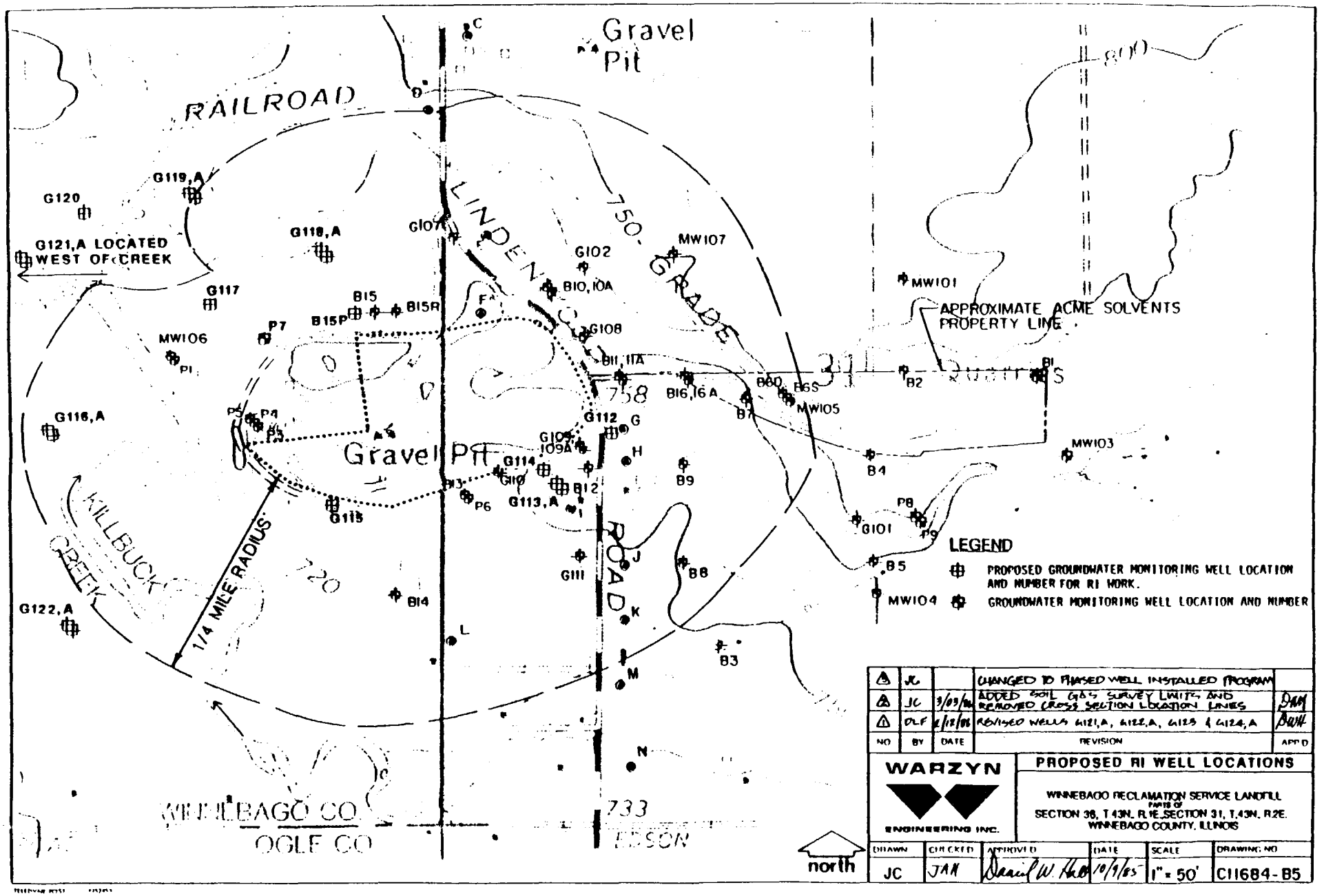
ELEMENTS

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Cyanide
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Tin
Vanadium
Zinc

Cyanide

WARZYN



NO	BY	DATE	REVISION	APP'D
3	JC		CHANGED TO PHASED WELL INSTALLED PROGRAM	
2	JC	3/09/06	ADDED SOIL GAS SURVEY LIMITS AND REMOVED CROSS SECTION LOCATION LINES	DAM
1	DLF	2/13/06	REVISED WELLS G121,A, G122,A, G123 & G124,A	DWH

WARZYN ENGINEERING INC.

PROPOSED RI WELL LOCATIONS

WINNEBAGO RECLAMATION SERVICE LANDFILL
PARTS OF SECTION 36, T.43N., R.1E. SECTION 31, T.43N., R.2E.
WINNEBAGO COUNTY, ILLINOIS

DRAWN	CHECKED	APPROVED	DATE	SCALE	DRAWING NO.
JC	JAN	Daniel W. Hall	10/9/05	1" = 50'	C11684-B5